

**LISTING OF THE CLAIMS**

1. (Currently amended) A catheter for the aspiration, fragmentation and removal of removable material from hollow bodies, in particular of thrombi and emboli from blood vessels, the catheter comprising:

a working head ~~(11) which that~~ is axially displaceable over a guide wire, ~~(6) is~~ displaceable independently thereof the guide wire, and is arranged at ~~the a~~ distal end of the catheter, and ~~which has~~ at least one lateral opening ~~(14); the catheter (10) having~~

a flexible transport screw ~~(13) which that~~ has a distal and a proximal part and is capable of being rotated by means of a rotary drive ~~(2) of a drive unit (1)~~, ~~which the~~ rotary drive is being a distance away from the working head ~~(11)~~, and ~~comprising:~~

a flexible tube ~~(12)~~ surrounding the transport screw ~~(13)~~, connected to the working head ~~(11)~~ and intended for removing the removable material or ~~the detached~~ thrombi and emboli fragments; and

a cutting tool ~~(13);~~

wherein the transport screw ~~(13) is in the forms of~~ a shearing cutting tool in cooperationing with the lateral opening ~~(14)~~ of the working head ~~(11)~~ for comminuting the ~~penetrating~~ materials or aspirated and/or detached thrombi and emboli penetrating between the peripheral borders ~~(13a)~~ of the transport screw ~~(13)~~.

2. (Currently amended) A catheter for the aspiration, fragmentation and removal of removable material from hollow bodies, in particular of thrombi and emboli from blood vessels, the catheter comprising:

a distal and a proximal end;

a working head ~~(11) which that~~ is axially displaceable over a guide wire ~~(6)~~

independently thereof, ~~and~~ is arranged at the distal end of the catheter, ~~and which~~ has at least one lateral opening (14), ~~the catheter (10) having;~~

a flexible transport screw (13) ~~which~~ that has a distal and a proximal part, extends from the proximal to the distal end of the catheter, and is capable of being rotated by means of a rotary drive (2) of a drive unit (1), ~~which the~~ rotary drive is being a distance away from the working head (11), and the transport screw (13) being provided with transport surfaces ~~which~~ that extend helically along ~~its~~ a longitudinal axis of the transport screw and in ~~the~~ a direction of radii of the transport screw, ~~and comprising;~~

a flexible tube (12) surrounding the transport screw (13), connected to the working head (11) and intended for removing the removable material or ~~the~~ detached thrombi and emboli fragments, and

a cutting tool;

wherein the transport screw (13) ~~is formed~~ forms, in the region of the working head (11), as a shearing cutting tool in cooperationing with the lateral opening (14) of the working head (11), ~~which and wherein the~~ cutting tool, in ~~the~~ an operating state, continuously

comminutes the penetrating material or aspirated and/or detached thrombi and emboli penetrating between the peripheral borders (13a) of the transport screw (13) and borders of the lateral openings (14) and

removes them along the transport surface in ~~the~~ a direction of the proximal end (7).

3. (Currently amended) A working head on a catheter for ~~the~~ aspiration, fragmentation and removal of removable material from hollow bodies, in particular of thrombi and emboli from blood vessels, the working head comprising:

~~which has~~ at least one lateral opening ~~(14)~~;

wherein the catheter ~~(10) having~~ comprises:

a flexible transport screw ~~(13) which that~~ has a distal and a proximal part and can be rotated by means of a rotary drive ~~(2)~~ of a drive unit ~~(1)~~, ~~which the~~ rotary drive ~~is being~~ a distance away from the working head ~~(11)~~, and the transport screw ~~(13)~~ being provided with transport surfaces, and

a cutting tool,

wherein the transport screw ~~(13) is formed~~ comprises, in the a region of the working head ~~(11)~~, as a shearing cutting tool ~~which that~~ cooperates with the opening ~~(14)~~ of the working head ~~(11)~~ and, in the an operating state, continuously

comminutes the ~~penetrating~~ materials or aspirated and/or detached thrombi and emboli penetrating between the peripheral borders ~~(13a)~~ of the transport screw ~~(13)~~ and borders of the at least one lateral openings ~~(14)~~ and

removes them along the transport surface, and

wherein the lateral opening ~~(14)~~ of the working head ~~(11)~~ ~~is in the forms~~ of an L-shaped slot ~~(14i, 14k, 14l, 14m)~~ having a limb extending substantially in the a longitudinal direction and a limb extending along a part of the a circumference.

4. (Currently amended) The working head as claimed in claim 3, wherein the a ratio of the a width of the limb extending in the longitudinal direction to the a width of the limb extending in along the part of the circumferencetial direction ~~is~~ is from 1.0 to 1.3.

5. (Currently amended) The catheter ~~or working head~~ as claimed in any of claims 1 to 4, wherein the distal part of the transport screw ~~(13)~~ in the region of the working head ~~(11)~~ is formed so as to be an exact fit in the an external diameter relative to the an internal diameter of

the ~~a~~ preferably substantially cylindrical working head-(11), so that the external diameter of the transport screw-(13) has only minimal diameter play relative to the internal diameter of the ~~an~~ inner lateral surface of the working head-(11).

6. (Currently amended) The catheter ~~or working head~~ as claimed in ~~any of~~ claims 1 to 5, wherein the edges on the ~~an~~ outside of the transport screw (13) are formed so as to be sharp in the ~~a~~ region of the lateral opening (14) of the working head-(11).

7. (Currently amended) The catheter ~~or working head~~ as claimed in ~~any of the preceding~~ claims 1, wherein the working head (11) tapers towards its ~~the~~ distal end-(8).

8. (Currently amended) The catheter ~~or working head~~ as claimed in ~~any of the preceding~~ claims 1, wherein the edges (15) of the lateral opening (14a) are formed so as to be sharp at least in sections in the ~~a~~ region of the ~~an~~ inner lateral surface of the working head-(11).

9. (Currently amended) The catheter ~~or working head~~ as claimed in ~~any of the preceding~~ claims 1, wherein the edges (15) of the lateral opening (14a) are formed so as to be rounded at least in sections in the ~~a~~ region of the ~~an~~ outer lateral surface of the working head-(11a).

10. (Currently amended) The catheter as claimed in ~~any of the preceding~~ claims 1, wherein the lateral opening (14) is in the form of a slot.

11. (Currently amended) The catheter as claimed in claim 10, wherein the slot runs at least partially in the ~~an~~ axial direction of the working head-(11).

12. (Currently amended) The catheter as claimed in claim 10-~~or 11~~, wherein the slot (~~14n, 14o, 14p, 14q~~) is formed, relative to the a longitudinal axis of the working head (~~11n, 11o, 11p, 11q~~), at least partly along a helix.
13. (Currently amended) The catheter ~~or working head~~ as claimed in any of claims 3 to 9 and 11 to 12, wherein the a width of the slot (~~14h~~) decreases toward the a proximal end of the working head (~~11h~~).
14. (Currently amended) The catheter as claimed in any of claims 10 to 13, wherein the slot (~~14i, 14k, 14l, 14m~~) is formed in an L-shape.
15. (Currently amended) The catheter ~~or working head~~ as claimed in any of the preceding claims 1, wherein, in the a distal end region of the working head, (~~11b, 11f, 11g, 11q~~) at least one groove-like recess, (~~19a, 19b, 19e~~) starting from the distal end and opening in-to the lateral opening, (~~14b, 14f, 14g, 14q~~) is arranged on the an outer lateral surface.
16. (Currently amended) The catheter ~~or working head~~ as claimed in claim 15, wherein the a depth of the groove-like recess (~~19~~) increases toward the a proximal end of the working head.
17. (Currently amended) The catheter ~~or working head~~ as claimed in claim 15 ~~or 16~~, wherein the a width (~~b~~) of the groove-like recess (~~19b~~) is greater than the a chord (~~s~~) of the an internal diameter of the working head (~~11f~~) in the a region of the a groove base.
18. (Currently amended) The catheter ~~or working head~~ as claimed in any of the preceding claims 1, wherein the working head (~~11a~~) is connected to the tube (~~12~~) axially in a manner resistant to tension and pressure.

19. (Currently amended) The catheter as claimed in ~~any of the preceding claims~~ 1, wherein the tube (12) has a reinforcement (17) ~~in at least in one or more~~ sections.
20. (Currently amended) The catheter as claimed in claim 19, wherein the reinforcement (17) is in the form of a metallic helix.
21. (Currently amended) The catheter as claimed in claim 19 ~~or 20~~, wherein the reinforcement (17) is arranged on the ~~an~~ inside of the tube (12).
22. (Currently amended) The catheter as claimed in ~~any of the abovementioned claims~~ 1, wherein the tube comprises (12) ~~is formed in two parts, the a proximal part, being in the form of comprising a plastic tube, and the a distal part, being in the form of comprising a metallic helical spring (17) having a thin-walled elastic plastic sheath (18).~~
23. (Currently amended) The catheter ~~or working head as claimed in any of the abovementioned claims~~ 1, wherein the working head (11) and/or the transport screw (13) ~~consist of comprise metal, in particular of including~~ stainless steel.
24. (Currently amended) The catheter ~~or working head as claimed in any of the above mentioned claims~~ 1, wherein the working head (11) ~~is composed of comprises~~ sintered ceramic, or metal ceramic or has a highly resistant layer, for protection from wear.
25. (Currently amended) The working head for a catheter as claimed in ~~any of the abovementioned claims~~ 3, as shown and described according to ~~in at least one of~~ figs. 4 to 80.